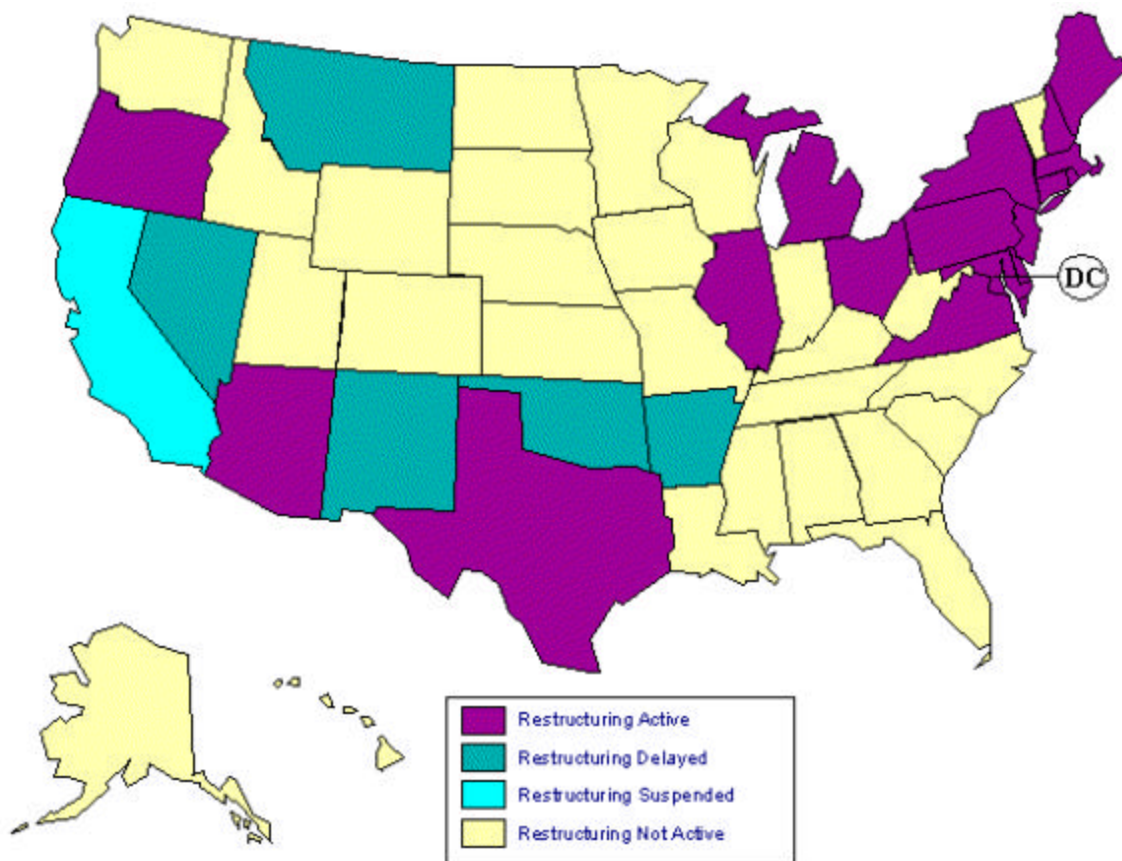


### 3.1 - States with Competitive Electricity Markets

Purple colored states are active in the restructuring process, and these states have either enacted enabling legislation or issued a regulatory order to implement retail access. Retail access is either currently available to all or some customers or will soon be available. Those states are Arizona, Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, and Virginia. In Oregon, no customers are currently participating in the State's retail access program, but the law allows nonresidential customers access.

A green colored state signifies a delay in the restructuring process or the implementation of retail access. Those states are Arkansas, Montana, Nevada, New Mexico, and Oklahoma.

California is the only blue colored state because direct retail access has been suspended.

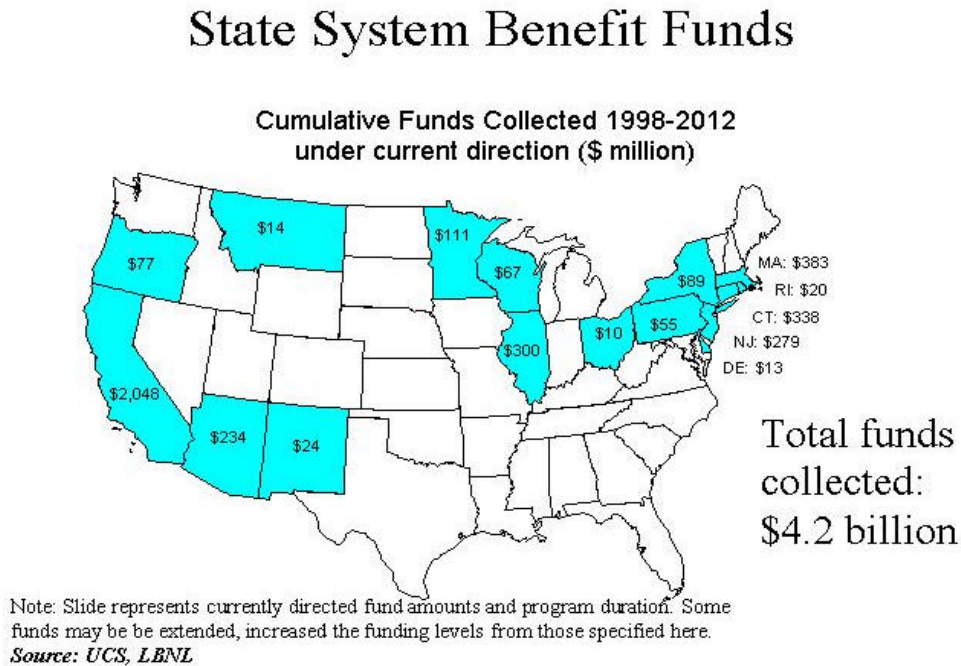


Source: U.S. DOE, Energy Information Administration  
[http://www.eia.doe.gov/cneaf/electricity/chg\\_str/regmap.html](http://www.eia.doe.gov/cneaf/electricity/chg_str/regmap.html), February 2003.

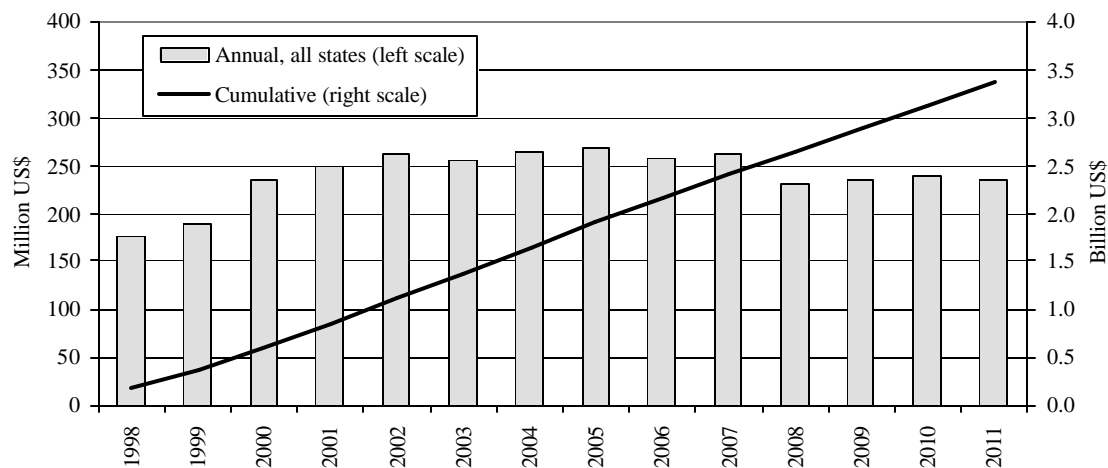
### 3.2 - States with System Benefit Charges (SBC)

A System Benefit Charge (SBC) is a small fee added to a customer's electricity bill used to fund programs that benefit the public, such as low-income energy assistance, energy-efficiency and renewable energy. There are 14 states with SBCs through which a portion of the money will be used to support renewable resources. Together, these states will collect about \$4 billion in funds to support renewable resources between 1998 and 2012.

**Figure 3.21: State System Benefit Funds**

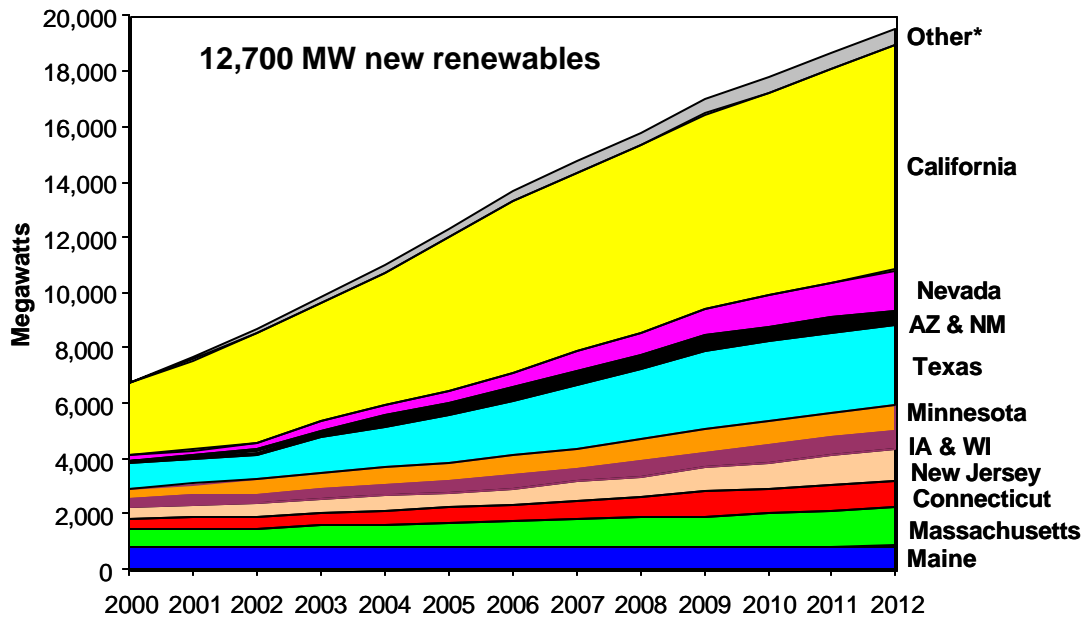


**Figure 3.22: Aggregation Annual and Cumulative State Funding**



Source: Bolinger et al. 2001.

**Figure 3.23: The Future Impact of State Purchase Mandates and Renewable Energy Funds**



\*Includes Illinois, Montana, New York, Oregon, Pennsylvania and Rhode Island.

Source: Union of Concerned Scientists

**Table 3.21: Renewable Energy Funding Levels and Program Duration**

State	Approximate Annual Funding (\$ Million)	\$ Per-Capita Annual Funding	\$ Per-MWh Funding	Funding Duration
CA	135	4.0	0.58	1998 - 2012
CT	15 → 30	4.4	0.50	2000 - indefinite
DE	1 (maximum)	1.3	0.09	10/1999 - indefinite
IL	5	0.4	0.04	1998 - 2007
MA	30 → 20	4.7	0.59	1998 - indefinite
MN	9	N/A	N/A	2000 - indefinite
MT	2	2.2	0.20	1999 - 7/2003
NJ	30	3.6	0.43	2001 - 2008
NM	4	2.2	0.22	2007 - indefinite
NY	6 → 14	0.7	0.11	7/1998 - 6/2006
OH	15 → 5 (portion of)	1.3	0.09	2001 - 2010
OR	8.6	2.5	0.17	10/2001 - 9/2010
PA	10.8 (portion of)	0.9	0.08	1999 - indefinite
RI	2	1.9	0.28	1997 - 2003
WI	1 → 4.8	0.9	0.07	4/1999 - indefinite

Note: Annual and per-MWh funding are based on funds expected in 2001.

Source: Bolinger, M., R. Wiser, L. Milford, M. Stoddard, and K. Porter. Clean Energy Funds: An Overview of State Support for Renewable Energy, Lawrence Berkeley Laboratory, April 2001.

**Table 3.22: State SBC Funding of Large-Scale Renewable Projects**

State	Form of Funding Distribution	Level of Funding (\$ Million)	Results <sup>1</sup>	Discounted cents/kWh Incentive over Five Years <sup>2</sup>
CA	Five-year production incentive	162 40 40	543 MW (assorted) 471 MW (assorted) 300 MW (assorted)	1.20 0.59 0.75
IL	Grant	0.55 1 0.352 0.55	3 MW landfill gas 3 MW hydro 1.2 MW hydro 15 MW landfill gas	0.57 1.86 1.63 0.11
MT	Three-year production incentive	1.5	3 MW wind	3.63
NY	Grants with performance guarantees	9 4	51.5 MW wind 6.6 MW wind	1.95 6.75
PA	Grant/ production incentive	6	67 MW wind	1.00

<sup>1</sup> Results are projected and are based on announced results of solicitations.

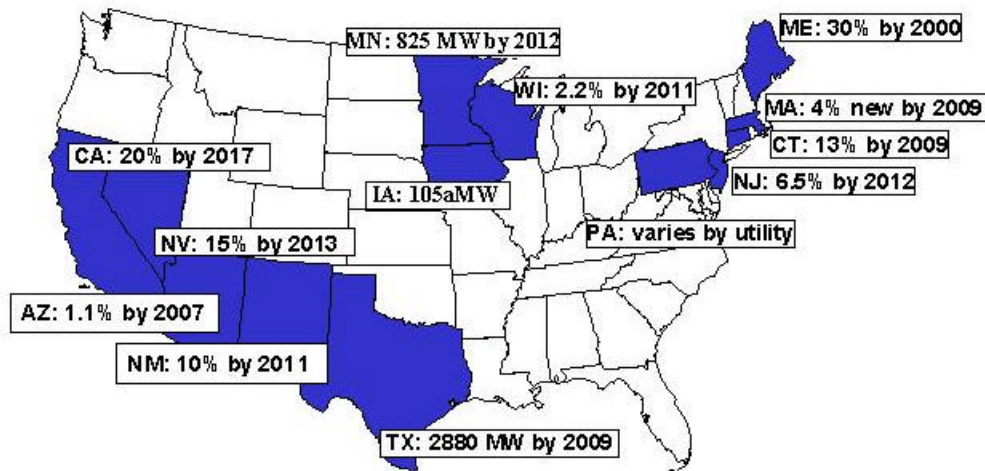
<sup>2</sup> Incentives have been normalized to their five-year production incentive equivalent using a 10% discount rate.

Source: Bolinger et al. 2001

### 3.3 - States with Renewable Portfolio Standards (RPS)

A Renewable Portfolio Standard (RPS) is a policy that obligates a retail electricity supplier to include renewable resources in its electricity generation portfolio. Retail suppliers can meet the obligation by constructing or owning eligible renewable resources or purchasing the power from eligible generators. To date, 13 states have adopted RPS policies or renewable purchase obligations. Initially, most states adopted RPS policies as part of electric industry restructuring, but more recently a number of states have implemented policies by legislation or proceedings that are separate from restructuring activities.

## Renewable Energy Obligations



Source: Updated January 2003 from map prepared by Union of Concerned Scientists and Lawrence Berkeley National Laboratory.

**Table 3.3.1: State Renewable Portfolio Standards and Purchase Requirements**

State	Purchase Requirements	Eligible Resources	Credit Trading	Penalties	Outside of state?
Arizona	0.2% in 2001, rising by 0.2%/yr to 1% in 2005, then to 1.05% in 2006, and to 1.1% from 2007-2012. (2001: 50% from solar electric, 2004:60% from solar electric)	PV and solar thermal electric, R&D, solar hot water, and in-state landfill gas, wind, and biomass.	No central credit trading system	30 cents/kWh starting in 2004. Proceeds go to solar electric fund to finance solar projects.	Out-of-state solar eligible if power reaches AZ. Landfill gas, wind, and biomass must be in-state.
California	Investor-owned utilities must add minimum 1% annually to 20% by	Biomass, solar thermal, photovoltaic, wind, geothermal, existing hydro	To be determined	To be determined	Out-of-state eligible if meets criteria

	2017.	< 30MW, fuel cells using renewable fuels, digester gas, landfill gas, ocean energy.			for approval.
Connecticut	Class I or II Technologies: 5.5% in 2000 6% in 2005 7% in 2009 and thereafter. Class I Technologies: 0.5% in 2000+0.25%/yr to 1% in 2002 to 6% in 2009.	Class I: solar, wind, new sustainable biomass, landfill gas, & fuel cells. Class II: licensed hydro, MSW, and other biomass.	Yes. Using NEPOOL Generation Information System.	Must meet RPS to be licensed. Flexible penalties for failure to comply. License revocation, suspension, and/or prohibition of new customers.	New England resources are eligible.
Iowa	Investor-owned utilities to purchase 105 average MW (~2% of 1999 sales)	Solar, wind, methane recovery, and biomass	No	Unspecified	Out-of-state renewables not eligible.
Maine	30% of retail sales in 2000 and thereafter. PUC will revisit within 5 years.	Fuel cells, tidal, solar, wind, geothermal, hydro, biomass, and MSW (< 100MW); high efficiency cogeneration. Self-generation is not eligible. Resource supply under this definition exceeds RPS requirement.	No. However, PUC is considering adoption of NEPOOL Generation Information System.	Possible sanctions at discretion of PUC including license revocation, monetary penalties, or payment into renewables fund.	New England resources or electricity delivered to New England are eligible.
Massachusetts	1% of sales to end-use customers from new renewables in 2003, +0.5%/yr to 4% in 2009 1%/yr increase thereafter until determined by Division of Energy Resources	New renewables placed into commercial operation after 1997, including solar, wind, ocean thermal, wave, tidal, fuel cells using renewable fuels, landfill gas, and low-emission advanced biomass. Excess production from existing generators over historical baseline eligible.	Yes. Using NEPOOL Generation Information System.	Entities may comply by paying 5¢/kWh. Non-complying retailers must submit a compliance plan. Revocation or suspension of license is possible.	New England resources or electricity delivered to New England are eligible.
Minnesota	(Not true RPS) Applies to Xcel Energy only: 425 MW wind and 125 MW biomass by 2002. Additional 400 MW wind by 2012.	Wind, biomass.	No, other than standard regulatory oversight.	No	Unspecified
Nevada	5% by 2003 increase 2%/yr until 15% in 2013. Minimum 5%/yr must come from solar.	Solar, wind, geothermal, & biomass (includes agricultural waste, wood, MSW, animal waste and aquatic plants). Distributed resources receives extra credit (1.15).	Yes. RECs valid for 4 years following year issued.	Financial penalties may be applied for noncompliance.	Out-of-state resources eligible with dedicated transmission line.
New Jersey	Class I or II: 2.5%	Class I.: Solar, PV, wind, fuel cells, geothermal, wave,	Legislation allows credit	Shortfalls must be made up in	Eligible if power flows

	Class I: 0.5% by 2001, 1% by 2006, increasing 0.5% per year to 4% by 2012 and thereafter.	tidal, landfill methane, and sustainable biomass.  Class II: hydro <30 MW and MSW facilities that meet air pollution requirements.	trading, but a credit trading system has not yet been developed.	the following year or financial penalties, license revocation or suspension.	into PJM or NYISO. Class II must come from states open to retail competition.
New Mexico	5% of retail sales by 2006. Increase by 1%/yr to 10% by January 1, 2011 and thereafter.	Solar, wind, hydro (<=5 MW), biomass, geothermal, and fuel cells. 1 kWh solar = 3kWh; 1 kWh biomass, geothermal, landfill gas, or fuel cells =2 kWh toward compliance	Yes. RECs valid for 4 years from date of issuance.	Yes, but to be determined.	Must be delivered in state.
Pennsylvania	For PECO, West Penn, & PP&L, 20% of residential consumers served by competitive default provider: 2% in 2001 rising 0.5%/yr. For GPU 0.2% in 2001 for 20% customers, 40% of customers in 2002, 60% in 2003, 80% in 2004.	Solar, wind, ocean, geothermal, sustainable biomass.	No.	Unspecified.	Eligible
Texas	1280 MW by 2003 increase to 2880 MW by 2009 (880 MW from existing) ~2.3% of 2009 sales.	Solar, wind, geothermal, hydro, wave, tidal, biomass, including landfill gas. New (operational after Sept. 1, 1999) or small (<2MW) facilities eligible.	Yes.	Lesser of 5¢/kWh or 200% of average market value of renewable energy credits. Under certain circumstances, penalty may not be assessed.	Not eligible unless dedicated transmission line into state.
Wisconsin	0.5% by 2001 increasing to 2.2% by 2011 (0.6% can come from facilities installed prior to 1998).	Wind, solar, biomass, geothermal, tidal, fuel cells that use renewable fuel, & hydro under 60 MW. Eligibility may be extended by PUC.	Yes. Utilities with excess RECs can trade or bank them.	Penalty of \$5,000-\$500,000 is allowed in legislation.	Eligible

Source: Derived from table in Wiser, R. Porter, K., Grace, R., Kappel, C. *Creating Geothermal Markets: Evaluating Experience with State Renewables Portfolio Standards*, Report prepared for the National Geothermal Collaborative, 2003.

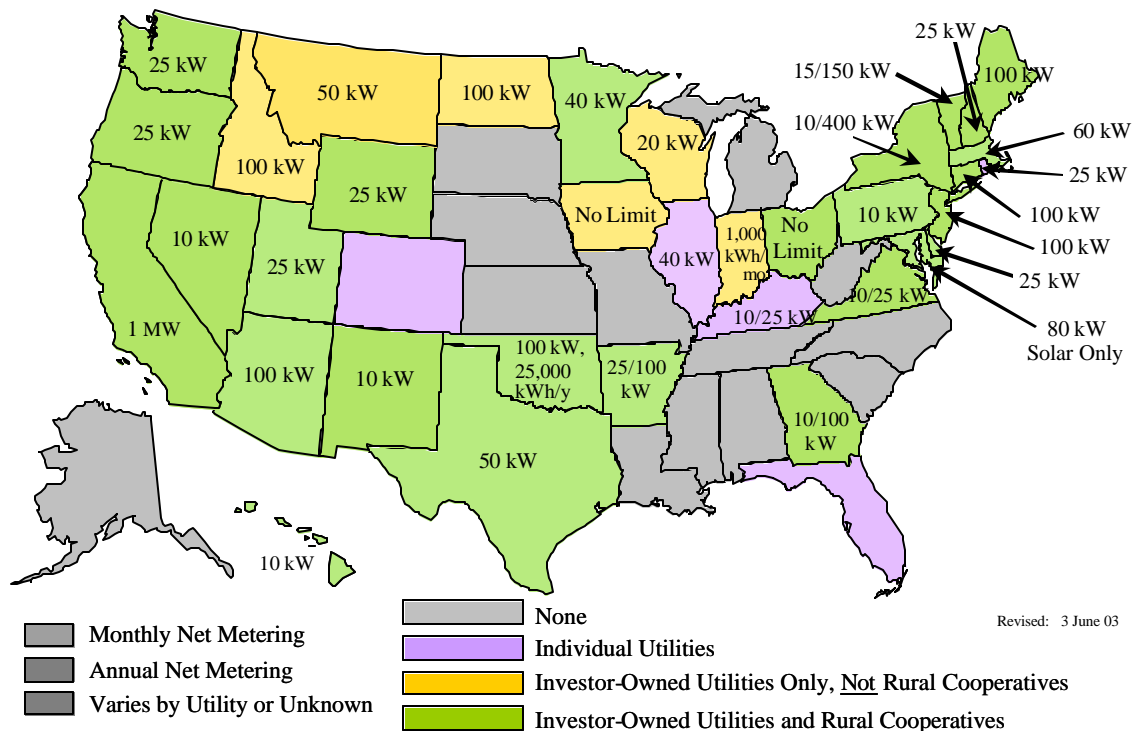
**Table 3.3.2 State Renewable Energy Goals (Non-binding)**

State	Purchase Requirements	Eligible Resources
Hawaii	7% by 2003; 8% by 2005; 9% by 2010.	Wind, solar, geothermal, hydro, landfill gas, wave, ocean thermal, biomass, including MSW and biofuels, and fuel cells or hydrogen fuels derived from renewable sources.
Illinois	5% by 2010; 15% in 2020	Wind, solar thermal, PV, organic waste biomass, & existing run-of-river hydro.
Minnesota	1% by 2005 increasing by at least 1%/year to 10% by 2015	Wind, solar, hydro (<60 MW), and biomass

### 3.4 - States with Net Metering Policies

Net metering allows customers with generating facilities to turn their electric meters backward when their systems are producing energy in excess of their on-site demand. In this way, net metering enables customers to use their own generation to offset their consumption over a billing period. This offset means that customers receive retail prices for the excess electricity they generate. Without net metering, a second meter is usually installed to measure the electricity that flows back to the provider, with the provider purchasing the power at a rate much lower than the retail rate.

## Net Metering By State



**Figure 3.41 Net Metering Policies by State**

Source: J. Green, National Renewable Energy Laboratory, updated June 2003.  
[http://www.eere.energy.gov/greenpower/netmetering/nm\\_map.html](http://www.eere.energy.gov/greenpower/netmetering/nm_map.html)



**Table 3.41 Summary of State Net Metering Policies**

State	Allowable Technology and Size	Allowable Customer	Statewide Limit	Treatment of Net Excess Generation (NEG)	Authority	Enacted
Arizona	Renewables and cogeneration ≤100 kW	All customer classes	None	NEG purchased at avoided cost	Arizona Corporation Commission	1981
Arkansas	Renewables, fuel cells and microturbines ≤25 kW residential ≤100 kW commercial	All customer classes	None	Monthly NEG granted to utilities	Legislature	2001
California	Solar and wind ≤1000 kW	All customer classes	0.5% of utility's peak demand	Annual NEG granted to utilities	Legislature	2002; 2001; 1995
Colorado	Wind and PV 3 kW, 10 kW	Varies	NA	Varies	Utility tariffs	1997
Connecticut	Renewables and fuel cells ≤100 kW	Residential	None	Not specified	Legislature	1990, updated 1998
Delaware	Renewables ≤25 kW	All customer classes	None	Not specified	Legislature	1999
Georgia	Solar, wind, fuel cells ≤10 kW residential ≤100 kW commercial	Residential and commercial	0.2% of annual peak demand	Monthly NEG or total generation purchased at avoided cost or higher rate if green priced	Legislature	2001
Hawaii	Solar, wind, biomass, hydro ≤10 kW	Residential and small commercial	0.5% of annual peak demand	Monthly NEG granted to utilities	Legislature	2001
Idaho	All technologies ≤100 kW	Residential and small commercial (Idaho Power only)	None	Monthly NEG purchased at avoided cost	Public Utility Commission	1980
Illinois	Solar and wind ≤40 kW	All customer classes; ComEd only	0.1% of annual peak demand	NEG purchased at avoided cost monthly plus annual payment to bring payment to retail rate	ComEd tariff	2000
Indiana	Renewables and cogeneration ≤1,000 kWh/month	All customer classes	None	Monthly NEG granted to utilities	Public Utility Commission	1985
Iowa	Renewables and cogeneration (No limit per system)	All customer classes	105 MW	Monthly NEG purchased at avoided cost	Iowa Utility Board [2]	1993
Kentucky	Solar, hydro, wind ≤10 kW residential	All customer classes	First 25 customers for each	Annual NEG granted to utilities	Public Utility Commission	2002

State	Allowable Technology and Size	Allowable Customer	Statewide Limit	Treatment of Net Excess Generation (NEG)	Authority	Enacted
	≤25 kW non-residential		utility			
Maine	Renewables and fuel cells ≤100 kW	All customer classes	None	Annual NEG granted to utilities	Public Utility Commission	1998
Maryland	Solar only ≤80 kW	Residential and schools only	0.2% of 1998 peak	Monthly NEG granted to utilities	Legislature	1997
Massachusetts	Qualifying facilities ≤60 kW	All customer classes	None	Monthly NEG purchased at avoided cost	Legislature	1997
Minnesota	Qualifying facilities ≤40 kW	All customer classes	None	NEG purchased at utility average retail energy rate	Legislature	1983
Montana	Solar, wind and hydro ≤50 kW	All customer classes	None	Annual NEG granted to utilities at the end of each calendar year.	Legislature	1999
Nevada	Solar and Wind ≤10 kW	All customer classes	None	Monthly or annual NEG granted to utilities	Legislature	2001; 1997
New Hampshire	Solar, wind and hydro ≤25 kW	All customers classes	0.05% of utility's annual peak	NEG credited to next month	Legislature	1998
New Jersey	PV and wind ≤100 kW	Residential and small commercial	0.1% of peak or \$2M annual financial impact	Annualized NEG purchased at avoided cost	Legislature	1999
New Mexico	Renewables and cogeneration ≤10 kW	All customer classes	None	NEG credited to next month, or monthly NEG purchased at avoided cost (utility choice)	Public Utility Commission	1999
New York	Solar only residential ≤10 kW; Farm biogas <400 kW	Residential, farm systems	0.1% 1996 peak demand	Annualized NEG purchased at avoided cost	Legislature	1997; 2002
North Dakota	Renewables and cogeneration ≤100 kW	All customer classes	None	Monthly NEG purchased at avoided cost	Public Utility Commission	1991
Ohio	Renewables, microturbines, and fuel cells (no limit per system)	All customer classes	1.0% of aggregate customer demand	NEG credited to next month	Legislature	1999
Oklahoma	Renewables and cogeneration ≤100 kW and ≤25,000 kWh/year	All customer classes	None	Monthly NEG granted to utility	Oklahoma Corporation Commission	1988
Oregon	Solar, wind, fuel cells and hydro ≤25 kW	All customer classes	0.5% of peak demand	Annual NEG granted to low-income programs, credited to customer, or other	Legislature	1999

State	Allowable Technology and Size	Allowable Customer	Statewide Limit	Treatment of Net Excess Generation (NEG)	Authority	Enacted
				use determined by Commission		
Pennsylvania	Renewables and fuel cells ≤10 kW	Residential	None	Monthly NEG granted to utility	Legislature	1998
Rhode Island	Renewables and fuel cells ≤25 kW	All customer classes	1 MW for Narragansett Electric Company	Annual NEG granted to utilities	Public Utility Commission	1998
Texas	Renewables only ≤50 kW	All customer classes	None	Monthly NEG purchased at avoided cost	Public Utility Commission	1986
Utah	Solar, wind, hydro and fuel cells ≤25 kW	All customer classes	0.1% of 2001 peak demand	NEG credited within billing cycle at least at avoided cost, any unused credit granted to the utility at the end of the calendar year	Legislature	2002
Vermont	PV, wind, fuel cells ≤15 kW  Farm biogas ≤150 kW	Residential, commercial and agricultural	1% of 1996 peak	Annual NEG granted to utilities	Legislature	1998
Virginia	Solar, wind and hydro Residential ≤10 kW Non-residential ≤25 kW	All customer classes	0.1% of peak of previous year	Annual NEG granted to utilities (power purchase agreement is allowed)	Legislature	1999
Washington	Solar, wind, fuel cells and hydro ≤25 kW	All customer classes	0.1% of 1996 peak demand	Annual NEG granted to utility	Legislature	1998
Wisconsin	All technologies ≤20 kW	All retail customers	None	Monthly NEG purchased at retail rate for renewables, avoided cost for non-renewables	Public Service Commission	1993
Wyoming	Solar, wind and hydro ≤ 25 kW	All customer classes	None	Annual NEG purchased at avoided cost	Legislature	2001

Source: National Renewable Energy Lab and Tom Starrs of Kelso Starrs and Associates. August 2002. <http://www.eren.doe.gov/greenpower/netmetering/index.shtml>

Notes:

IOU — Investor-owned utility

GandT — Generation and transmission cooperatives

REC — Rural electric cooperative

[1] For information, see the Database of Statet Incentive for Renewable Energy (<http://www.dcs.ncsu.edu/solar/dsire/dsire.cfm>).

[2] Except for the Linn County Electric Cooperative, which is rate-regulated by Iowa PUC.

The original format for this table is taken from: Thomas J. Starrs (September 1996). *Net Metering: New Opportunities for Home Power*. Renewable Energy Policy Project, Issue Brief, No. 2. College Park, MD: University of Maryland

### 3.5 - States with Environmental Disclosure Policies

As electricity markets open to competition, retail consumers are increasingly gaining the ability to choose their electricity suppliers. With this choice comes the need for consumers to have access to information about the price, source, and environmental characteristics of their electricity. For green power marketers in particular, it is important that consumers understand the environmental implications of their energy consumption decisions. To date, more than 20 states have *environmental disclosure* policies in place, requiring electricity suppliers to provide information on fuel sources and, in some cases, emissions associated with electricity generation. Although most of these policies have been adopted in states with retail competition, a handful of states with no plans to implement restructuring have required environmental disclosure. Summaries of state environmental disclosure policies are provided below under the categories full, partial, or proposed. The term *partial disclosure requirements* refers to policies that are not mandatory, do not apply to all retail electricity suppliers, or do not result in direct disclosure to consumers.

**Table 3.51 Environmental Disclosure Requirements by State, August 2002**

State	Disclosure Requirement	Scope	Frequency	Distribution	Effective Date	Authority
<b>Full Disclosure Requirements</b>						
Arkansas	Standards to be set for disclosure of environmental impacts	Electric service providers	TBD	TBD	TBD	Legislature
California	Fuel mix required in standard format.	Electric service providers	Quarterly	Bill insert, offers, and written promotional materials (except ads)	1999	Legislature
Colorado	Fuel mix. Standard format is suggested.	Investor owned utilities with load >100MW	Twice annually	Bill insert or mailing	1999	Public Utility Commission
Connecticut	Fuel mix and air emissions	Electric distribution companies	TBD	TBD	TBD	Legislature
Delaware	Fuel mix	Electric suppliers	Quarterly	Bill insert or mailing, offers, marketing materials	1999	Public Service Commission
Florida	Fuel mix	Investor-owned utilities	Quarterly	On bill or bill insert	1999	Public Service Commission
Illinois	Fuel mix and CO <sub>2</sub> ; NO <sub>x</sub> ; SO <sub>2</sub> ; high-level and low-level nuclear waste emissions in standard format.	Electric utilities and alternative retail suppliers	Quarterly	Bill insert	1998	Legislature

State	Disclosure Requirement	Scope	Frequency	Distribution	Effective Date	Authority
Maine	Fuel mix and CO <sub>2</sub> NO <sub>x</sub> ; SO <sub>2</sub> emissions in format similar to sample	Electric service providers (Residential and small commercial customers only.)	Quarterly	Bill insert or mailing and prior to initiation of service.	1999	Public Utilities Commission
Maryland	Fuel mix and CO <sub>2</sub> ; NO <sub>x</sub> ; SO <sub>2</sub> emissions in standard format	Electric suppliers	Twice annually	Bill insert or mailing and with contracts	2000	Legislature
Massachusetts	Fuel mix and CO <sub>2</sub> ; NO <sub>x</sub> ; SO <sub>2</sub> emissions in standard format	Competitive suppliers	Quarterly	Bill insert and prior to initiation of service.	1998	Dept. of Telecommunications and Energy
Michigan	Fuel mix and SO <sub>2</sub> ; CO <sub>2</sub> ; NO <sub>x</sub> ; high-level nuclear waste emissions in standard format	Electric utilities and alternative electric providers	Twice annually	Bills and on Commission web site	(2002)	Legislature
Minnesota	Fuel mix, air pollutant emissions, and nuclear waste emissions in standard brochure	Rate regulated electric utilities	Twice annually	Web, phone referral on bill, full info on bill insert	(2002)	Public Utilities Commission
New Jersey	Fuel mix, energy efficiency, and CO <sub>2</sub> ; SO <sub>2</sub> ; NO <sub>x</sub> emissions in standard format	All electric suppliers	Twice annually	Mailings, direct mail marketing, solicitations, contracts	1999	Legislature
New Mexico	Fuel mix and associated emissions, standard format required under proposed rules	Competitive electric suppliers	TBD, proposed annually	TBD	TBD	Legislature
Nevada	Fuel mix and emissions of high-level radioactive waste, SO <sub>2</sub> , CO <sub>2</sub> , CO, PM, VOCs, NO <sub>x</sub> , and heavy metals.	Electric utilities and competitive power providers	Twice annually	Bill insert and web	2002	Legislature
New York	Fuel mix and CO <sub>2</sub> ; SO <sub>2</sub> ; NO <sub>x</sub> emissions in standard format	Load serving entities	Twice annually	Bill insert and prior to offers	2002	Public Service Commission
Ohio	Fuel mix, CO <sub>2</sub> ; SO <sub>2</sub> ; NO <sub>x</sub>	Retail electric	Annually , plus	Bill insert or mailing, and	2001	Legislature

State	Disclosure Requirement	Scope	Frequency	Distribution	Effective Date	Authority
	emissions and high-level and low-level radioactive waste in standard format	service providers	quarterly comparisons of actual and projected	contracts		
Oregon	Fuel mix and CO <sub>2</sub> ; SO <sub>2</sub> ; NO <sub>x</sub> ; spent nuclear fuel emissions in standard format	Electric service providers	Quarterly	On bill or insert, marketing materials, contracts, URL on bill	2000	Legislature
Texas	Fuel mix and CO <sub>2</sub> ; SO <sub>2</sub> ; NO <sub>x</sub> ; Particulates; Nuclear waste emissions in standard format	Retail electric providers	Twice annually	Bill insert or mailing, solicitations, Commission web site	(2002)	Legislature
Washington	Fuel mix in standard format	Retail suppliers	Twice annually (plus two referrals)	Bill insert or mailing, solicitations	2001	Legislature
<b>Partial Disclosure Requirements</b>						
Arizona	Fuel mix and emissions to extent reasonably known	Electric suppliers including default suppliers	Upon request and written marketing materials	Upon request	2000	Arizona Corporation Commission
District of Columbia	Fuel mix	Retail electricity suppliers	Twice annually to Commission	Supplied only to the Commission	2001	Legislature
Pennsylvania	Fuel mix and energy efficiency	Electric generation supplier	Upon request	Supply to Commission annually	1998	Public Utility Commission
Virginia	Fuel mix and emissions to the extent feasible	Competitive service providers; CSP's making claim-based sales	Annually to extent feasible	"Reported to customers."	(2002)	Virginia State Corporation Commission
<b>Proposed/Pending Disclosure Requirements</b>						
Iowa	Fuel mix and CO <sub>2</sub> ; SO <sub>2</sub> ; NO <sub>x</sub>	IOUs	Once annually	TBD	TBD	Iowa Utilities Board

State	Disclosure Requirement	Scope	Frequency	Distribution	Effective Date	Authority
Montana	Fuel mix and CO <sub>2</sub> ; SO <sub>2</sub> ; NO <sub>x</sub> spent nuclear waste, hydro	Retail electricity suppliers	Twice annually	Product offers, contracts, ads	TBD	Dept. of Public Service Regulation
Vermont	PSB authorized to set standards for fuel mix and environmental impacts	Electric suppliers	Once annually	TBD	TBD	Legislature
West Virginia	Fuel mix and CO <sub>2</sub> ; SO <sub>2</sub> ; NO <sub>x</sub> and high-level and low-level nuclear waste	Retail electricity suppliers including default suppliers	Supplied to Commission quarterly	Solicitations Posted on company web site	TBD	Public Service Commission

Source: L. Bird, National Renewable Energy Laboratory, updated June 2003.  
<http://www.eren.doe.gov/greenpower/disclosetxt.shtml>

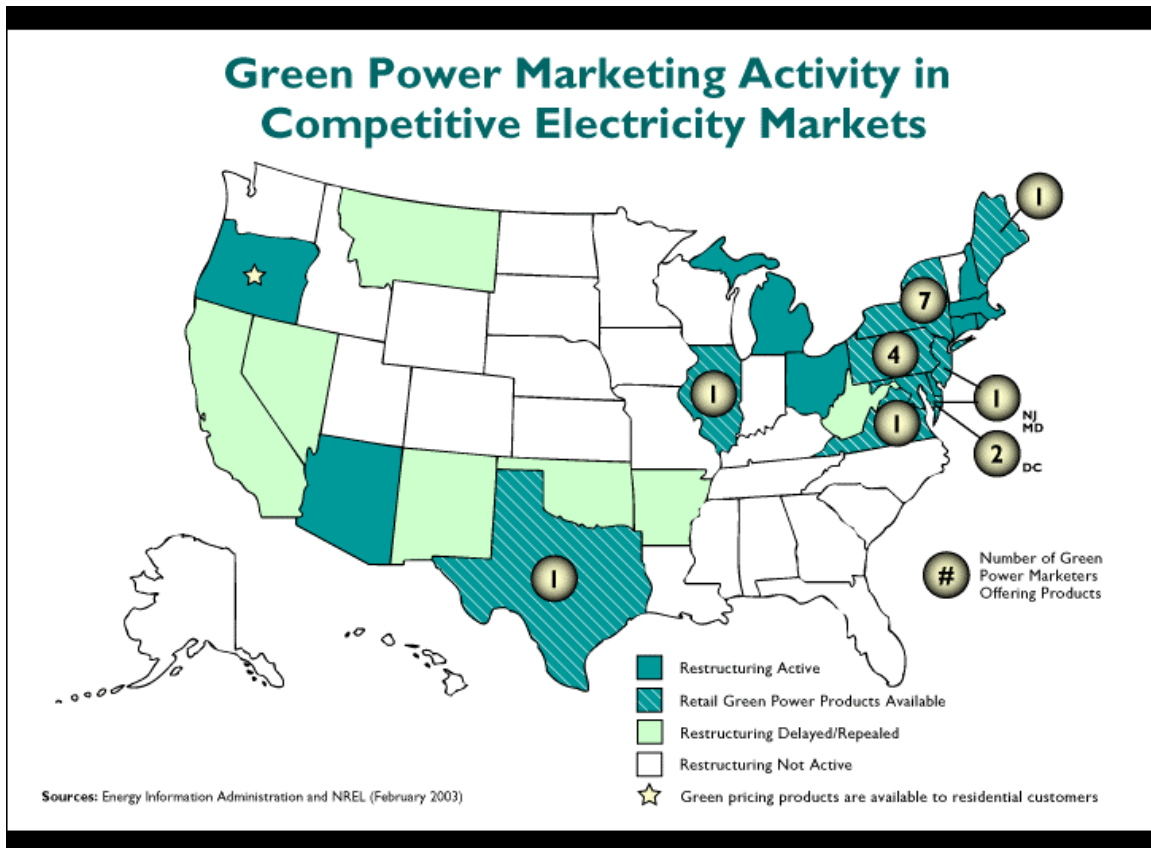
### 3.6 Green Power Markets

Source	kW in Place	%	kW Planned	%
Wind	913.335	93.0	302.070	70.0
Biomass	45.120	4.6	76.052	17.6
Solar	4.762	0.5	1.379	0.3
Geothermal	10.500	1.1	49.900	11.6
Small Hydro	8.553	0.9	1.975	0.5
Total	982.270	100.0	431.376	100.0

Source: L.Bird and B. Swezey, Estimates of Renewable Energy Capacity Developed to Serve Green Power Markets in the U.S., National Renewable Energy Laboratory, February 2003.  
[http://www.eere.energy.gov/greenpower/new\\_gp\\_cap.shtml](http://www.eere.energy.gov/greenpower/new_gp_cap.shtml)

### 3.7 - States with Competitive Green Power Offerings

Green power marketing refers to selling green power in the competitive marketplace, in which multiple suppliers and service offerings exist. Electricity markets are now open to full competition in a number of states, while others are phasing in competition, allowing some customers to choose their electricity supplier. To date, competitive marketers have offered green power to retail or wholesale customers in California, Illinois, Pennsylvania, New Jersey, New York, Texas, and several New England states.



Source: L. Bird and B. Swezey, National Renewable Energy Laboratory. Updated February 2003. [http://www.eere.energy.gov/greenpower/dereg\\_map.html](http://www.eere.energy.gov/greenpower/dereg_map.html)



**Table 3.71: New Renewables Capacity Supplying Competitive Market Customers, as of December 2002 (in kW)**

Source	kW in Place	%	kW Planned	%
Wind	687,740	99.0	190,780	65.1
Biomass	1,600	0.2	52,160	17.8
Solar	609	0.1	20	0.0
Geothermal	5,000	0.7	49,900	17.0
Small Hydro	0	0.0	0	0.0
Total	694,949	100.0	292,860	100.0

Source: L. Bird and B. Swezey, Estimates of Renewable Energy Capacity Developed to Serve Green Power Markets in the U.S., National Renewable Energy Laboratory, February 2003.  
[http://www.eere.energy.gov/greenpower/new\\_gp\\_cap.shtml](http://www.eere.energy.gov/greenpower/new_gp_cap.shtml)

**Table 3.72: Competitive Electricity Markets Retail Green Power Product Offerings as of December 2002**

Company	Product Name	Residential Price Premium <sup>1</sup>	Fee	Resource Mix <sup>2</sup>	Certification
<b>District of Columbia</b>					
Community Energy/Washington Gas Energy Services	New Wind Energy	2.5¢/kWh		100% wind energy	
PEPCO Energy Services <sup>3</sup>	100% Green Electricity	0.95¢/kWh	—	100% landfill gas	Green-e (Commercial only)
	51% Green Electricity	0.45¢/kWh	—	51% landfill gas and less than 1% hydro	Green-e (Commercial only)
<b>Illinois</b>					
AES NewEnergy	Green Power (non-residential only)	N/A	N/A	100% landfill gas, 40% new	ERT
<b>Maine<sup>4</sup></b>					
Maine Renewable Energy/Maine Interfaith Power & Light	Green Supply	1.5¢/kwh		50% small hydro, 50% wood-fired biomass	

Company	Product Name	Residential Price Premium <sup>1</sup>	Fee	Resource Mix <sup>2</sup>	Certification
<b>Maryland<sup>3</sup></b>					
PEPCO Energy Services	100% Green Electricity	0.99¢/kWh	—	100% landfill gas	Green-e (Commercial only)
	51% Green Electricity	0.49¢/kWh	—	51% landfill gas and less than 1% hydro	Green-e (Commercial only)
<b>New Jersey<sup>5</sup></b>					
Green Mountain Energy Company	Enviro Blend	1.08¢/kWh	\$3.95/mo.	45% small hydro, landfill gas, wind, or solar, 50% large hydro, 5% new	Green-e
<b>New York</b>					
Community Energy/Niagara Mohawk	New Wind Energy	1.3¢/kWh	—	50% wind/50% hydro	Green-e
Community Energy/NYSEG	New Wind Energy	2.5¢/kWh		100-kWh blocks of 100% wind	Green-e
ConEdison Solutions <sup>6</sup>	GREEN Power	0.5¢/kWh		25% wind, 75% small hydro	Green-e
Energy Cooperative of New York <sup>7</sup>	Renewable Electric Program	0.5¢/kWh to 0.75¢/kWh		20% new wind, 80% existing landfill gas	
Green Mountain Energy/Niagara Mohawk	Green Mountain Energy Electricity	1.5¢/kWh	—	85% hydro/15% wind	
Select Energy	TBD (non-residential only)	TBD	TBD	100% wind energy	
Sterling Planet/Niagara Mohawk	50%, 75%, or 100% Upgrades	1.3¢/kWh	—	30% wind, 20% hydro, 50% biomass	Green-e
<b>Pennsylvania<sup>8</sup></b>					
ElectricAmerica	50% Hydro	-0.14¢/kWh	—	50% large hydro	—
Energy Cooperative of Pennsylvania <sup>9</sup>	Eco Choice 100	1.25¢/kWh	\$5/year	100% landfill gas	Green-e
	50% Hydro	-0.14¢/kWh	—	50% large hydro	—
	New Wind Energy	2.5¢/kWh	—	100% wind	

Company	Product Name	Residential Price Premium <sup>1</sup>	Fee	Resource Mix <sup>2</sup>	Certification
Green Mountain Energy Company	Enviro Blend	0.96¢/kWh	\$3.95/mo.	40% renewable, 10% new renewable, 50% hydro or natural gas	Green-e
	Nature's Choice	1.63¢/kWh	\$3.95/mo.	90% renewable, 10% new renewable	Green-e
Mack Services Group	100% Renewable	1.25¢/kWh	—	100% landfill gas	Green-e
<b>Texas<sup>10</sup></b>					
Green Mountain Energy Company	100% Wind Power	-0.05¢/kWh	\$4.95/mo.	100% wind	Green-e
	Big Texas Sun Club	-0.05¢/kWh	\$9.95/mo.	100% wind, \$5 goes toward new solar fund	Green-e
<b>Virginia<sup>11</sup></b>					
PEPCO Energy Services	100% Green Electricity	2.33¢/kWh	—	100% landfill gas	Green-e (Commercial only)
	51% Green Electricity	1.83¢/kWh	—	51% landfill gas and less than 1% hydro	Green-e (Commercial only)

Source: National Renewable Energy Laboratory.

Notes:

N/A= Not applicable.

<sup>1</sup> Commercial/industrial products and prices are negotiable. Some prices are as of June 2002.

<sup>2</sup> New is defined as operating or repowered after January 1, 1999 based on the Green-e TRC certification standards.

<sup>3</sup> Offered in PEPCO and Baltimore Gas & Electric service territories. Product prices are for PEPCO service territory. PEPCO

Energy Service's commercial green power offering is Green-e certified.

<sup>4</sup> Price premium is for Central Maine Power service territory.

<sup>5</sup> Green Mountain Energy offers products in Conectiv, GPU, and PSE&G service territories. Product prices are for Conectiv service territory.

<sup>6</sup> Price premium is determined by a comparison to ConEdison Solutions' standard electricity product.

<sup>7</sup> Price premium is for Niagara Mohawk service territory. Premium varies depending on energy taxes.

<sup>8</sup> Product prices are for PECO service territory. Green Mountain Energy and Community Energy offer products in all utility service territories (PECO, Allegheny, Duquesne, Met Ed, Penelec, Penn Power, UGI, and PPL). The other green power marketers listed only offer products in the PECO service territory.

<sup>9</sup> The Energy Cooperative's 50% renewable product is supplied by ElectricAmerica. Its 100% renewable energy product is supplied by Mack Services Group.

<sup>10</sup> Offered in CPL, TXU, TNMP, and Reliant service territories. Product prices are based on kWh rate for the TXU service territory (does not include monthly fee). Customer purchasing 500 kWh per month would pay 0.95¢/kWh more for 100% wind power than TXU price to beat on average including the monthly fee.

<sup>11</sup> Products are only available in Dominion service territory.

References:

Green power marketer and utility web sites.

District of Columbia Public Service Commission [http://www.dcpssc.org/ci/cch/elec/calculators/static\\_calc\\_table.html#ft10](http://www.dcpssc.org/ci/cch/elec/calculators/static_calc_table.html#ft10)

Maryland Attorney General <http://www.oag.state.md.us/Energy/pepco-other.htm>, 5/21/02.

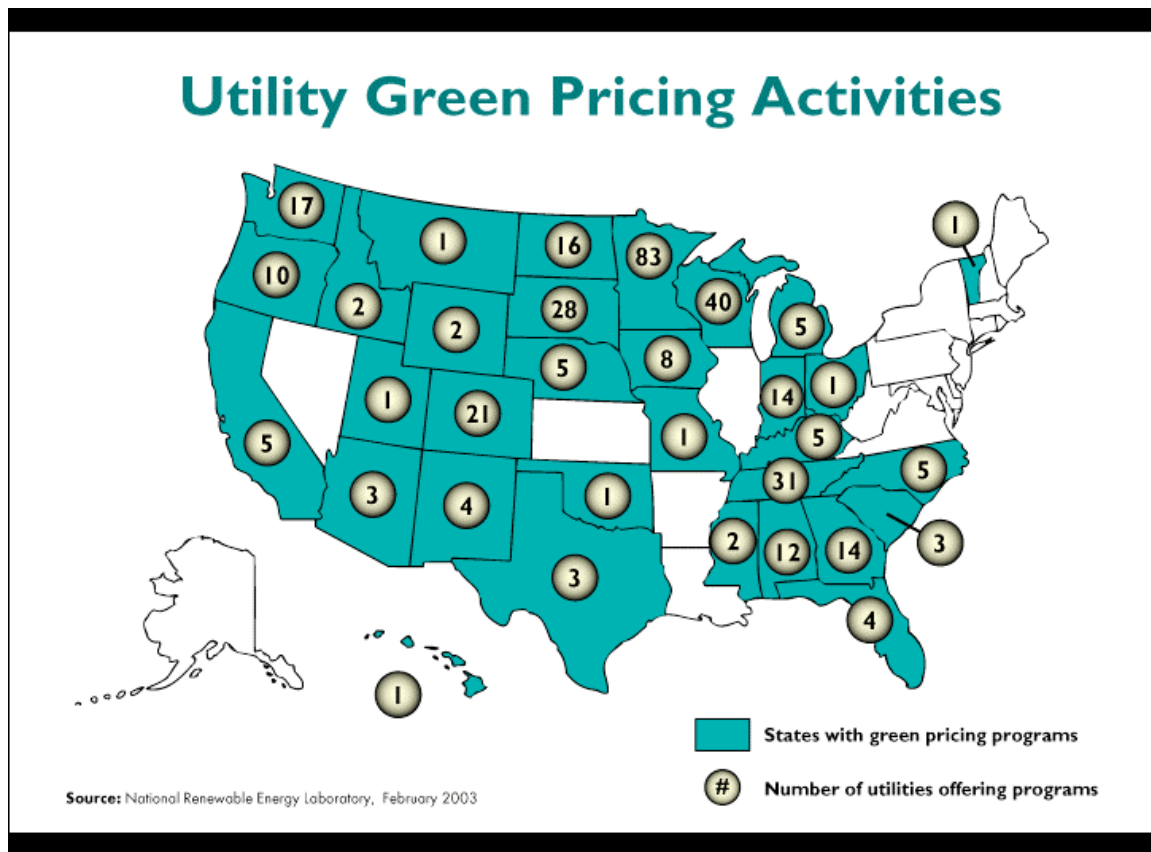
Pennsylvania Office of Consumer Advocate Residential Price Comparison Charts, 5/31/02.

Maryland Attorney General Electricity Supplier Rate and Service Information <http://www.oag.state.md.us/energy/>

Virginia's State Corporation Commission <http://www.yesvachoice.com/howtochoose/howtocompare.asp>

### 3.8 - States with Utility Green Pricing Programs

Green pricing is an optional utility service that allows customers an opportunity to support a greater level of utility company investment in renewable energy technologies. Participating customers pay a premium on their electric bill to cover the extra cost of the renewable energy. Many utilities are offering green pricing to build customer loyalty and expand business lines and expertise prior to electric market competition. To date, more than 300 investor-owned, municipal, and cooperative utilities in 32 states have either implemented or announced plans to offer a green pricing option.



Source: L. Bird and B. Swezey, National Renewable Energy Laboratory. Updated February 2003. [http://www.eere.energy.gov/greenpower/pricing\\_map.html](http://www.eere.energy.gov/greenpower/pricing_map.html)

**Table 3.81 New Renewables Capacity Supported through Utility Green Pricing Programs, as of December 2002 (in kW)**

Source	kW in Place	%	KW Planned	%
Wind	225,595	78.5	111,290	80.3
Biomass	43,520	15.1	23,892	17.2
Solar	4,153	1.4	1,359	1.0
Geothermal	5,500	1.9	0	0.0
Small Hydro	8,553	3.0	1,975	1.4
<b>Total</b>	<b>287,321</b>	<b>100.0</b>	<b>138,516</b>	<b>100.0</b>

Source: L. Bird and B. Swezey, Estimates of Renewable Energy Capacity Developed to Serve Green Power Markets in the U.S., National Renewable Energy Laboratory, February 2003.

[http://www.eere.energy.gov/greenpower/new\\_gp\\_cap.shtml](http://www.eere.energy.gov/greenpower/new_gp_cap.shtml)

**Table 3.82 - Utility Green Pricing Programs, December 2002**

Utility Name	Program Name	Resource Type	Size	Start Date	Premium
Southern Company: Alabama Power	EarthCents Solar	central PV	joint 1 MW	2000	\$6.00/100 watts
TVA: City of Athens Electric Department, Cullman Electric Coop, Cullman Power Board, Florence Utilities, Hartselle Utilities, Huntsville Utilities, Joe Wheeler EMC, Muscle Shoals Electric Board, Scottsboro Electric Power Board, Sheffield Utilities, Tuscumbia Electric Department	Green Power Switch	wind, landfill gas, solar	joint 8.7 MW	2000	2.67¢/ kWh
Arizona Public Service	Solar Partners Program	central PV	616 kW	1997	\$2.64/ 15kWh
Salt River Project	EarthWise Energy	central PV, landfill gas, small hydro	4.4 MW	1998/ 2001	3.0¢/kWh
Tucson Electric	GreenWatts	landfill gas, PV, wind	400 kW	2000	7.5-10¢/ kWh
City of Alameda	Clean Future Fund	various, electric vehicles	--	1999	1.0¢/kWh
Los Angeles Dept. of Water and Power	Green Power for a Green LA	wind, landfill gas	27 MW	1999	3.0¢/kWh
Palo Alto Utilities	Future Green	wind	0.2aMW	2000	3.0¢/kWh
Roseville Electric	RE Green Energy Program	geothermal, hydro, PV	26.8 kW	2000	1.0¢/kWh

Utility Name	Program Name	Resource Type	Size	Start Date	Premium
Sacramento Municipal Utility District	Greenergy	wind, landfill gas, hydro	70.3 MW	1997	1.0¢/kWh
Sacramento Municipal Utility District	PV Pioneers I/II	PV	1.9 MW	1993/1998	\$4/month
Colorado Springs Utilities	Green Power	wind	1 MW from Xcel	1997	3.0¢/kWh
Holy Cross Energy	Wind Power Pioneer	wind	5 MW from Xcel	1998	2.5¢/kWh
Holy Cross Energy	Local Renewable Energy Pool	small hydro, PV	50 kW	2002	2.5¢/kWh
Platte River Power Authority (Estes Park, Fort Collins Utilities, Longmont Power & Communications, Loveland Water & Light)	Wind Power Program	wind	5.8 MW	1996	2.5¢/kWh
Tri-State Generation & Transmission: (16 of 44 coops offer program) Gunnison County Electric, K.C. Electric, La Plata Electric, Morgan Co. Rural Electric Association, Mountain Parks Electric, Mountain View Electric, Poudre Valley Rural Electric Association, San Isabel Electric, San Luis Valley Rural Electric Coop, San Miguel Power, United Power, Y-W Electric	Renewable Resource Power Service	wind, landfill gas	660 kW from PRPA	1999	2.5¢/kWh
Xcel Energy	WindSource	wind	52.7 MW	1997	2.5¢/kWh
Xcel Energy	Renewable Energy Trust	PV	100 kW	1993	Contribution
Yampa Valley Electric Association	Green Power	wind	450 kW from Xcel	1999	3.0¢/kWh
City of Tallahassee/Sterling Planet	Green for You	biomass, solar	TBD	2002	1.6¢/kWh
City of Tallahassee/Sterling Planet	Green for You	solar only	TBD	2002	11.6¢/kWh
Southern Company: Gulf Power Company	EarthCents Solar	PV in schools; central PV	14 kW; joint 1 MW	1996/1999	Contribution; \$6.00/ 100 watts
Tampa Electric Company (TECO)	Smart Source	PV, biomass (co-firing)	1.5 MW	2000	10.0¢/kWh
Utilities Commission City of New Smyrna Beach	Green Fund	local PV projects	9.8 kW	1999	Contribution
Electric Membership Corporation (13 of 42 coops offer program): Carroll EMC, Coweta-Fayette EMC, Flint Energies, GreyStone Power, Habersham EMC, Irwin EMC, Jackson EMC, Lamar EMC, Ocmulgee EMC, Sawnee EMC, Snapping Shoals EMC, Tri-County EMC, Walton EMC of Monroe	Green Power EMC	landfill gas	13 MW	2001	TBD

Utility Name	Program Name	Resource Type	Size	Start Date	Premium
Georgia Power	TBD	landfill gas, wind solar	TBD	TBD	6.0¢/kWh
Hawaiian Electric	Sun Power for Schools	PV in schools	22 kW	1996	Contribution
Alliant Energy	Second Nature	landfill gas, wind	4.6 MW	2001	2.0¢/kWh
Basin Electric Power Cooperative: Lyon Rural, Harrison County, Nishnabotna Valley Cooperative, Northwest Rural Electric Cooperative, Western Iowa	Prairie Winds	wind	2.6 MW	2000	3.0¢/kWh
Cedar Falls Utilities	Wind Energy Electric Project	wind	1.5 MW	1999	Contribution
Waverly Light & Power	Iowa Energy Tags	wind	planned 900 kW	2001	2.0¢/kWh
Avista Utilities	Buck-A-Block	wind	1 aMW	2002	1.8¢/kWh
Idaho Power	Green Power Program	various	TBD	2001	Contribution
Hoosier Energy (5 of 16 coops): Southeastern Indiana REMC, South Central Indiana REMC, Utilities District of Western Indiana REMC, Decatur County REMC, Daviess-Martin County REMC	EnviroWatts	landfill gas	--	2001	2.0¢/kWh - 4.0¢/kWh
Indianapolis Power & Light	Elect PlanSM Green Power Program	geothermal	0.5 aMW	1998	0.9¢/kWh
PSI Energy/Cinergy	Green Power Rider	wind, solar, landfill gas, digester gas	TBD	2001	Contribution
Wabash Valley Power Association (7 of 24 coops offer program): Boone REMC, Hendricks Power Cooperative, Kankakee Valley REMC, Miami-Cass REMC, Tipmont REMC, White County REMC, Northeastern REMC	Enviro Watts	landfill gas	7.5 MW	2000	0.5-1.0¢/kWh
East Kentucky Power Cooperative: Blue Grass Energy, Inter-county Energy, Owen Electric	EnviroWatts	landfill gas	--	2002	2.75¢/kWh
TVA: Bowling Green Municipal Utilities, Franklin Electric Plant Board	Green Power Switch		joint 8.7 MW	2000	2.67¢/kWh
Consumers Energy	Experimental Green Power Program	wind, various	1.8 MW	2001	3.2¢/kWh
Detroit Edison	Solar Currents	central PV	55 kW	1996	\$6.59/100 watts
Lansing Board of Water and Light	GreenWise Electric Power	landfill gas, small hydro	1 aMW	2001	3.0¢/kWh
Traverse City Light and Power	Green Rate	wind	600 kW	1996	1.58¢/kWh
We Energies	Energy for Tomorrow	wind, landfill gas, hydro	8.2 MW	2000	2.04¢/kWh

Utility Name	Program Name	Resource Type	Size	Start Date	Premium
Alliant Energy	Second Nature	landfill gas, wind	4.6 MW	2002	2.0¢/kWh
Basin Electric Power Cooperative: Minnesota Valley Electric Coop, Sioux Valley Southwestern	Prairie Winds	wind	2.6 MW	2000	3.0¢/kWh
Great River Energy (all 29 coops offer program) : Agralite Electric Cooperative, Arrowhead Electric Cooperative, BENCO Electric, Brown County Rural Electric, Connexus Energy, Co-op Light & Power, Crow Wing Power, Dakota Electric Association, East Central Electric Association, Federated Rural Electric, Goodhue County, Head of the Lakes, Itasca Mantrap Cooperative, Kandiyohi Power Cooperative, Lake Country Power, Lake Region Electric Cooperative, McLeod Cooperative Power, Meeker Cooperative Light & Power, Mille Lacs Electric Cooperative, Minnesota Valley Electric Cooperative, Nobles Cooperative Electric, North Itasca, Redwood Electric Cooperative, Runestone Electric, South Central Electric Association, Stearns Electric, Steele-Waseca, Todd-Wadena, Wright-Hennepin Electric	Wellspring	wind	6 MW	1997	1.28-2.0¢/kWh
Minnesota Power	WindSense	wind	0.2 aMW	2002	2.5¢/kWh
Minnkota Power Cooperative: Beltrami, Clearwater Polk, North Star, PKM, Red Lake, Red River, Roseau, Wild Rice, Thief River Falls	Infinity Wind Energy	wind	900 kW	1999	3.0¢/kWh
Missouri River Energy Services (23 of 55): Adrian, Alexandria, Barnesville, Breckenridge, Detroit Lakes, Elbow Lake, Henning, Jackson, Lakefield, Lake Park, Luverne, Madison, Moorhead, Ortonville, St. James, Sauk Centre, Staples, Wadena, Westbrook, Worthington	RiverWinds	wind	1.8 MW	2002	2.0-2.5¢/kWh
Moorhead Public Service	Capture the Wind	wind	1.5 MW	1998	1.5¢/kWh
Otter Tail Power	TailWinds	wind	900 kW	2002	2.6¢/kWh



Utility Name	Program Name	Resource Type	Size	Start Date	Premium
Southern Minnesota Municipal Power Agency (all 18 munis offer program): Fairmont Public Utilities, Wells Public Utilities, Austin Utilities, Preston Public Utilities, Spring Valley Utilities, Blooming Prairie Public Utilities, Rochester Public Utilities, Owatonna Public Utilities, Waseca Utilities, St. Peter Municipal Utilities, Lake City Utilities, New Prague Utilities Commission, Redwood Falls Public Utilities, Litchfield Public Utilities, Princeton Public Utilities, North Branch Water and Light, Mora Municipal Utilities, Grand Marais Public Utilities	SMMPA Wind Power	wind	1.9 MW planned	2000	3.0¢/kWh
Xcel Energy	WindSource	wind	1.8 MW	TBD	2.0¢/kWh
City Utilities of Springfield	WindCurrent	wind	purchase from Western	2000	5.0¢/kWh
TVA: City of Oxford, North East Mississippi Electric Power Association	Green Power Switch	wind, landfill gas, solar	joint 8.7 MW	2000	2.67¢/kWh
Basin Electric Power Cooperative: Lower Yellowstone	Prairie Winds	wind	2.6 MW	2000	3.0¢/kWh
Dominion North Carolina Power	NC GreenPower	TBD	TBD	TBD	4.0¢/kWh
Duke Power	NC GreenPower	TBD	TBD	TBD	4.0¢/kWh
ElectriCities	NC GreenPower	TBD	TBD	TBD	4.0¢/kWh
NC Electric Cooperatives	NC GreenPower	TBD	TBD	TBD	4.0¢/kWh
Progress Energy/CP&L	NC GreenPower	TBD	TBD	TBD	4.0¢/kWh
Basin Electric Power Cooperative (49 coops offer program in 5 states): Oliver Mercer Electric Coop, Mor-gran-sou Electric Coop, KEM Electric Coop, North Central Electric Coop, Verendrye, Capital, Northern Plains, Dakota Valley, Burke Divide, Montrail Williams, McKenzie Electric Coop, West Plains, Slope Electric Coop	PrairieWinds	wind	5.2 MW	2000	2.5¢/kWh
Minnkota Power Cooperative: Cass County, Cavalier, Nodak	Infinity Wind Energy	wind	1.8 MW	1999	3.0¢/kWh
Lincoln Electric System	LES Renewable Energy Program	wind	1.32 MW	1998	4.3¢/kWh
Nebraska Public Power District	Prairie Power Program	TBD	TBD	1999	Contribution
Omaha Public Power District	Green Power Program	landfill gas, wind	3.9 MW	2002	3.0¢/kWh

Utility Name	Program Name	Resource Type	Size	Start Date	Premium
Tri-State: Chimney Rock Public Power District, Northwest Rural Public Power District		wind, landfill gas	planned 2.66 MW	2001	2.5¢/kWh
El Paso Electric		wind			3.19¢/kWh
Public Service of New Mexico	TBD	wind		TBD	TBD
Tri-State: Kit Carson Electric Cooperative		wind, landfill gas	planned 2.66 MW	2001	2.5¢/kWh
Xcel Energy	WindSource	wind	660 kW	1999	3.0¢/kWh
City of Bowling Green	Bowling Green Power	small hydro, PV	2 kW	1999	1.35¢/kWh
Oklahoma Gas & Electric	TBD	wind	TBD	TBD	TBD
Eugene Water & Electric Board	EWEB Wind Power	wind	6.5 MW	1999	1.3¢/kWh
Midstate Electric Cooperative	Environmentally Preferred Power	wind, small hydro	0.1 aMW	1999	2.5¢/kWh
Oregon Trail Electric Cooperative	Green Power	wind	0.2 aMW	2002	1.5¢/kWh
Pacific Northwest Generating Cooperative (5 of 16 coops offer program): Central Electric Cooperative, Clearwater Power, Consumers Power, Douglas Electric Cooperative, Umatilla Electric Cooperative	Green Power	landfill gas	1.1 MW	1998	1.8-2.0¢/kWh
PacifiCorp/Green Mountain Energy (Renewable Usage)	Green Mountain Energy Electricity	existing geothermal, wind	0.5 aMW	2002	0.78¢/kWh
PacifiCorp/Green Mountain Energy (Salmon Friendly)	Green Mountain Energy Salmon-Friendly Plan	existing geothermal, wind	0.1 aMW	2002	0.78¢/kWh + \$2.50 donation
PacifiCorp: Pacific Power	Blue Sky	wind	3 aMW	2000	2.95¢/kWh
Portland General Electric Company	Clean Wind Power	wind		2000	3.5¢/kWh
Portland General Electric/Green Mountain Energy	Green Mountain Energy Electricity	existing geothermal, wind		2002	0.8¢/kWh
Portland General Electric/Green Mountain Energy	Green Mountain Energy Salmon-Friendly Plan	existing geothermal, wind		2002	0.99¢/kWh
Santee Cooper, Horry Electric Cooperative, and Santee Electric Cooperative	Green Power Program	landfill gas	2.2 MW	2001	3.0¢/kWh

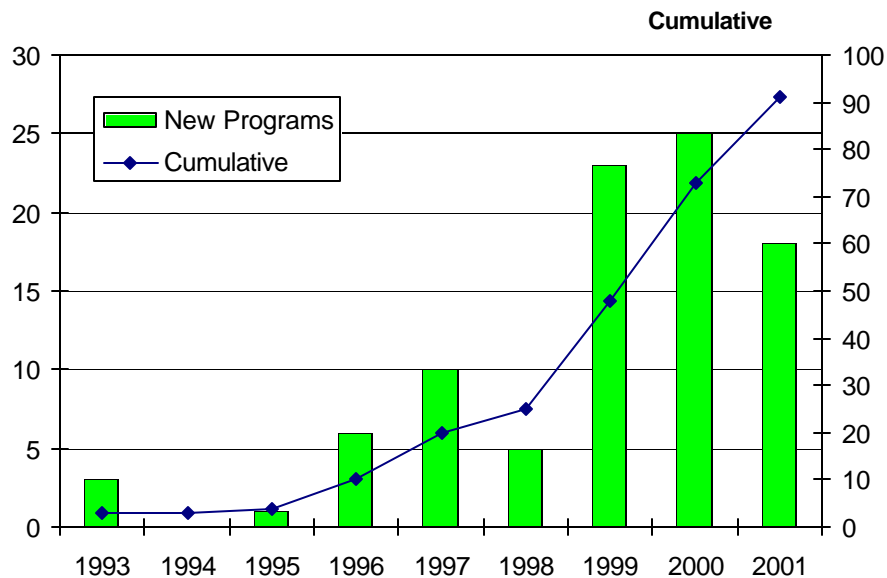
Utility Name	Program Name	Resource Type	Size	Start Date	Premium
Basin Electric Power Cooperative: Bon Homme-Yankton Electric Assn., Central Electric Cooperative Association, Charles Mix Electric Association, City of Elk Point, Clay-Union Electric Corporation, Codington-Clark Electric Cooperative, Dakota Energy Cooperative, Douglas Electric Cooperative, FEM Electric Association, H-D Electric Cooperative, Kingsbury Electric Cooperative, Lyon- Lincoln Electric Cooperative, McCook Electric Cooperative, Northern Electric Cooperative, Oahe Electric Cooperative, Renville-Sibley Coop, Sioux Valley Southwestern Electric Coop, Southeastern Electric Coop, Union County Electric Cooperative, Whetstone Valley Electric Cooperative, Black Hills Electric Coop, LaCreek Electric Coop, West River Power Association, Butte Electric Coop, Cherry Todd Electric Coop, Moreau Grand, Grand Electric Cooperative, Rosebud	Prairie Winds	wind	2.6 MW	2000	3.0¢/kWh
TVA: Appalachian Electric Coop, Bristol Tennessee, Caney Fork Electric Coop, Clarksville, Clinton, Cookeville, Cumberland EMC, Duck River EMC, Elizabethton, EPB (Chattanooga), Erwin, Gibson Electric, Greeneville, Johnson City Power Board, Jackson, Knoxville, Lawrenceburg, Lenoir, McMinnville, Middle Tennessee EMC, Morristown, Mountain Electric Coop, Murfreesboro, Nashville, Newport, Oak Ridge, Paris BPU, Powell Valley Electric Coop, Pulaski, Sevier County, Tullahoma	Green Power Switch	landfill gas, solar, wind	joint 8.7 MW	2000	2.67¢/kWh
Austin Energy	GreenChoice	wind, landfill gas, solar	97 MW	2000/ 1997	1.076¢/kWh
City Public Service of San Antonio	Windtricity	wind	1 MW	2000	3.0¢/kWh
El Paso Electric	Renewable Energy Tariff	wind	1.32 MW	2001	1.92¢/kWh
PacifiCorp: Utah Power	Blue Sky	wind	joint 3 MW	2000	2.95¢/kWh
Green Mountain Power	CoolHome, CoolBusiness	wind, biomass	TBD	2002	Contribution
Avista Utilities	Buck-A-Block	wind	1 a MW	2002	1.8¢/kWh
Benton County Public Utility District	Green Power Program	landfill gas, wind	1 MW	1999	Contribution
Chelan County PUD	Sustainable Natural Alternative Power (SNAP)	PV, wind, micro hydro	31 kW	2001	Contribution

Utility Name	Program Name	Resource Type	Size	Start Date	Premium
Clallam County PUD	Green Power Rate	landfill gas	1 aMW	2001	0.7¢/kWh
Clark Public Utilities	Green Lights	PV, wind	0.2 aMW	2002	1.5¢/kWh
Cowlitz PUD	Renewable Resource Energy	wind, PV	TBD	2002	2.0¢/kWh
Grant County PUD	Alternative Energy Resources Program	wind	12 MW	2002	2.0¢/kWh
Grays Harbor PUD	Green Power Program	wind	6 MW	2002	3.0¢/kWh
Mason County PUD No. 3	Mason Evergreen Power	wind	1 MW	2003	2.0¢/kWh
Orcas Power & Light	Green Power	small hydro, wind, PV	0.5 aMW	1999	3.5¢/kWh
Pacific County PUD	Green Power	wind, hydro	0.3 aMW	2002	1.05¢/kWh
PacifiCorp: Pacific Power	Blue Sky	wind	3 MW	2000	2.95¢/kWh
Peninsula Light	Green Choice	wind, hydro	1 aMW	2002	2.8¢/kWh
Puget Sound Energy	Green Power	wind, solar	1 aMW	2002	2.0¢/kWh
Seattle City Light	Seattle Green Power Program	solar	1.1 kW	2002	Contribution
Snohomish County PUD	Planet Power	wind	0.5aMW	2002	2.0¢/kWh
Tacoma Power	EverGreen Options	small hydro, wind	1 aMW	2000	Contribution
Alliant Energy	Second Nature	wind, landfill gas	2 MW	2000	2.0¢/kWh
Dairyland Power Cooperative	Evergreen Renewable Energy Program	wind	660 kW	1997	3.0¢/kWh
Great River Energy: Head of the Lakes	Wellspring	wind	6 MW	1997	1.28-2.0¢/kWh
Madison Gas & Electric	Wind Power Program	wind	8.22 MW	1999	3.3¢/kWh
We Energies	Energy for Tomorrow	landfill gas, hydro, wind	8.2 MW	1996	2.0¢/kWh

Utility Name	Program Name	Resource Type	Size	Start Date	Premium
Wisconsin Public Power Inc. (34 of 37 munis offer program): Algoma, Cedarburg, Florence, Kaukauna, Muscoda, Stoughton, Reedsburg, Oconomowoc, Waterloo, Whitehall, Columbus, Hartford, Lake Mills, New Holstein, Richland Center, Boscobel, Cuba City, Hustisford, Sturgeon Bay, Waunakee, Lodi, New London, Plymouth, River Falls, Sun Prairie, Waupun, Eagle River, Jefferson, Menasha, New Richmond, Prairie du Sac, Slinger, Two Rivers, Westby	Renewable Energy Program	small hydro, wind, digester gas	2.0 MW	2001	2.0¢/kWh
Wisconsin Public Service	SolarWise for Schools	PV installations on schools	72 kW	1997	Contribution
Wisconsin Public Service	NatureWise	Wind, landfill gas, animal waste	0.12 aMW	2002	2.65¢/kWh
PacifiCorp: Pacific Power	Blue Sky	wind	3 MW	2000	2.95¢/kWh
Tri-State: Carbon Power & Light		wind, landfill gas	planned 2.66 MW	2001	2.5¢/kWh

Source: L. Bird and B. Swezey, National Renewable Energy Laboratory  
<http://www.eere.energy.gov/greenpower/summary.shtml>

**Figure 3.73 Growth Trend in Utility Green Pricing Programs**



Source: B. Swezey and L. Bird 2000.

### 3.9 Green Energy Certificates

Green certificates (also known as green tags, renewable energy certificates, or tradeable renewable certificates) represent the environmental attributes of power generated from renewable electric plants. A number of organizations offer green energy certificates separate from electricity service (i.e., customers do not need to switch from their current electricity supplier to purchase these certificates). See our list below of organizations that offer green certificate products.

**Table 3.91 Green Energy Certificate Product Offerings (as of December 2002)**

<b>Certificate Marketer</b>	<b>Product Name</b>	<b>Renewable Resources</b>	<b>Location of Renewable Resources</b>	<b>Residential Price Premium<sup>1</sup></b>	<b>Certification</b>
3 Phases Energy Services	Green Certificates	New wind	Nationwide	2.0¢/kWh	Green-e
Aquila, Inc.	Aquila Green Credits (non-residential only)	New wind	Kansas	N/A	Green-e
Bonneville Environmental Foundation	Green Tags	99% new wind, up to 1% new solar	Washington, Oregon, Wyoming	2.0¢/kWh	Green-e
Community Energy	New Wind Energy	New wind	New York, Pennsylvania, West Virginia	2.5¢/kWh	Green-e
Maine Interfaith Power & Light	Green Tags (supplied by Bonneville Environmental Foundation)	99% new wind, up to 1% new solar	Washington, Oregon, Wyoming	2.0¢/kWh	Green-e
NativeEnergy	WindBuilders	New wind	South Dakota	\$60-120 annual membership	—
	Vermont CoolHome (residential only)	New biomass (dairy farm methane) and new wind	Vermont (biomass), South Dakota (wind)	\$6/month or \$60/year	—
	WindBuilders Gift Certificate	New wind	South Dakota	\$15 per ton of CO2 avoided	—
	WindBuilders Business Partners (non-residential only)	Various	Not known	N/A	—
PG&E National Energy Group	PureWind Certificates	New wind	New York	4.0¢/kWh	—
Renewable Choice Energy	American Wind	New wind	Nationwide	2.5¢/kWh	Green-e

Certificate Marketer	Product Name	Renewable Resources	Location of Renewable Resources	Residential Price Premium <sup>1</sup>	Certification
Sterling Planet	Green America	40% wind 35% biomass 15% geothermal 5% low-impact hydro 5% solar (all new)	Nationwide	1.6¢/kWh on average	Green-e
Sun Power Electric	ReGen (available in New England only)	99% new landfill gas, 1% new solar	Massachusetts, Rhode Island	3.6¢/kWh	Green-e
Waverly Light & Power	Iowa Energy Tags	Wind	Iowa	2.0¢/kWh	—
<sup>1</sup> Large users may be able to negotiate price premiums. N/A = Not applicable. Source: National Renewable Energy Laboratory.					

### 3.9 - State Incentive Programs

Many states have policies or programs in place to support renewable energy resources, such as tax incentives, industry recruitment incentives, or grant, loan, or rebate programs. The following table lists the incentives currently available by state.

**Table 3.91 Financial Incentives for Renewable Energy Resources by State**

State	Tax Incentives	Grants, Loans, Rebates	Other Incentives
AL	Wood burning space heating personal deduction	Geo-exchange loan program Renewable fuels grant program (biomass)	
AK		Power project revolving loan fund	
AZ	Qualifying wood stove tax deduction Solar and wind energy systems personal tax credit and sales tax exemption	Sun-Share PV buy-down program	Remote solar electric leasing program
AR	Advanced biofuels corporate tax credit	Alternative fuel vehicle conversion rebate	Emerging manufacturing facilities credit
CA	Solar and wind corporate and personal tax credit Solar personal tax deduction Solar system property tax exemption.	Solar water heater loan programs Various buy-downs Solar electric and geothermal rebates Various grants: electric vehicles, energy research, transportation Innovative building review program	PV Pioneer 2 Geothermal and PV leasing Solar water heating Energy technology export program
CO	Alternative fuel vehicle corporate and personal tax credits		
CT	Alternative fueled vehicle charging station and incremental cost credit Vehicles and equipment sales tax exemption Local option for property tax exemption	Housing investment fund	
DE			
DC			
FL	Solar energy equipment sales tax exemption	Various solar rebate programs	Solar water heater leasing
GA			
HI	Wind and solar corporate and personal tax credits Alcohol fuels sales tax exemption	Solar water heating loan program Various solar water heating rebate programs	
ID	Solar, wind and geothermal personal tax deduction	Low interest loans for renewable resources	



State	Tax Incentives	Grants, Loans, Rebates	Other Incentives
IL	Special property tax assessment for renewable energy systems	Renewable energy resources rebates/grants Alternative energy bond fund	Industrial recruitment incentive
IN	Renewable energy systems property tax exemption	Alternative power and energy grants Biomass grant program Renewable energy demonstration project grants	
IA	Ethanol based fuels and wind energy equipment sales tax exemption Local option for wind energy special property tax assessment Solar property tax exemption Methane gas conversion property tax exemption	Energy efficiency and renewable energy grants Alternative energy revolving loan fund Building energy management program Iowa renewable fuel fund	
KS	Renewable energy property tax exemption	Renewable energy grants	
KY			
LA			
ME			
MD	Clean energy corporate and personal tax credit Green building corporate and personal tax credit Local option property tax exemption for renewables EV, hybrid, and fuel cell vehicle sales tax exemption Wood heating fuel sales tax exemption	Community energy loan assistance program State energy loan program	
MA	Alternative energy patent exemption Renewable energy equipment sales tax exemption Renewable energy personal income tax exemption Solar and wind corporate excise tax deductions Local property tax exemptions for hydro	Home energy loans	
MI		Community energy project grants	
MN	PV and wind sales tax exemption PV and wind property tax exemption	PV rebates Wind energy agricultural improvement loans Stock loan program	Wind, hydro, digester energy generation incentives Ethanol production incentive
MS		Energy investment loan program	

State	Tax Incentives	Grants, Loans, Rebates	Other Incentives
MO	Wood energy producers corporate tax credit	Low-cost efficiency loan fund	
MT	Alternative energy systems corporate tax credit Wind energy systems corporate tax credit Personal tax credits for wind and residential geothermal systems Renewable energy systems property tax exemption	Alternative energy revolving loan fund	Wind energy systems and manufacturing facility incentives
NE		Low interest loans for energy efficiency	
NV	Renewable energy systems property tax exemption Solar energy producers property tax exemption	Energy efficient appliance loans	
NH	Local option for renewable energy property tax exemption	Renewable energy technology grants	
NJ	Solar and wind energy systems sales tax exemption	NJ clean energy program rebates	
NM			
NY	Solar electric generating equipment personal tax credit Green building corporate tax credit	Renewable R&D grants Energy Smart loans Solar system rebates	
NC	All renewables - corporate and personal tax credits Active solar heating/cooling property tax exemption		Renewable energy equipment manufacture incentives
ND	Geothermal, solar, and wind corporate and personal tax credits and property tax exemptions Large wind property tax incentive and sales tax exemption		
OH	Conversion facilities corporate, sales and property tax exemptions	Renewable energy loans	
OK			
OR	Business energy tax credit Renewable energy system property tax exemption and personal tax credit	Various solar water heater rebates and loan programs Remote water pumping rebates Utility independent home rebates Small scale energy loans	Green building initiative
PA		Alternative fuels incentive grants PV grants	

State	Tax Incentives	Grants, Loans, Rebates	Other Incentives
RI	Renewable energy personal tax credit and property tax exemption Renewable energy sales tax credit	PV and wind rebates Customer education and market building program	Renewable generation supply incentive Small customer incentives for green power marketers
SC		Palmetto Electric rebate program	
SD	Renewable energy systems property tax exemption		
TN		Small business energy loans	
TX	Solar energy device corporate tax deduction Solar systems manufacturer franchise tax exemption Solar and wind systems property tax exemption	Home energy air conditioning and appliance rebates Home energy loans	PV water pump sales program
UT	Renewable energy systems corporate and personal tax credits		
VT	Local option for property tax exemption Sales tax exemption for net metering equipment		
VA	Local option property tax exemption for solar	Green building incentives Low income loans for energy conservation improvements	Solar manufacturing incentive VA Alliance for solar electricity incentives
WA	Sales and use tax exemption High technology product manufacturers excise tax exemption	Off-grid PV buy-down program Rooftop solar loans	
WV	Corporate tax credit and property tax exemption for wind facilities		
WI	Solar and wind energy equipment property tax exemption	Municipal utility solar energy rebates Renewable energy assistance program grants	
WY			PV leasing program

Source: North Carolina Solar Center, Database of State Incentives for Renewable Energy  
<http://www.ies.ncsu.edu/dsire/summarytables/financial.cfm?&CurrentPageID=7>, January 17, 2002